



The

# MARKETPLACE

For Recycling Commodities

Kentucky Recycling Assistance Section

November 2017

## Rubberized Modified Asphalt

By Byron Bland

Rubber Modified Asphalt (RMA) has been used extensively on streets and highways in states such as Arizona, Texas, Florida, and all the way to Alaska. There is empirical data demonstrating advantages to recycling scrap tires for this application. The properties of the rubberized asphalt emulsions have been proven to reduce maintenance costs, resist cracking, resist rutting, increase skid resistance, reduce road noise and create a moisture barrier that resists water intrusion on roads (a cause of pot holes).

There is little to no evidence demonstrating how RMA performs in Kentucky. To close this gap Kentucky chose to set up a dual purpose grant program intended to examine the qualitative performance of RMA on Kentucky's roads and to promote outlets for recycling scrap tires.

In calendar year 2016, the Recycling and Local Assistance Branch (RLA) implemented a grant program that takes finely ground rubber from recycled scrap car tires and mixes this material with road asphalt and gravel to make a chip seal type of road surface. The grant is set up to be a five year pilot project that will collect qualitative data on the durability of the RMA road chip seal when compared to a traditional asphalt chip seal that is applied at the same time. The RLA Branch pays for two miles of RMA chip seal and the county government matches the two miles with a traditional asphalt chip seal. For the 2016 calendar year, five counties were awarded the grant for the chip seal surface.

In 2017 the grant was expanded to include a thin overlay surface option. This surface type is the same as most paved roads, a smooth black asphalt. Again, five counties were awarded the grants, this time they were all thin overlay projects. The grant allows for a match up to 24,000 square yards of the RMA chip seal and up to 12,000 square yards of thin overlay.

Recipients of the grant have bench-marks which they must meet for reporting purposes since one of the intentions for this grant is data collection to evaluate the RMA performance.

Counties must submit reports describing the road conditions for both the traditional and the RMA asphalts with supporting documentation or pictures of problems, issues or successes. This is done the first, third and fifth year after paving. During this five year period grantees also have limited ability to modify the road surface without notifying the RLA Branch. Changes may be made to the road surfaces if absolutely necessary but it is discouraged since it may diminish any data RLA hopes to collect.

Currently there are plans to offer the RMA grant in 2018 for both the thin overlay and the chip seal. As time passes and data is gathered regarding the performance of RMA on Kentucky's roads, hopefully more contractors and counties will elect to utilize the RMA asphalt if there is improved pavement performance.

## Training Crows to Pick Up Cigarettes

*Excerpted from Earth911.com October 2017*

Just how big of a problem is cigarette litter? The butts are tossed onto the ground at a rate of 65 percent, according to Keep America Beautiful. Approximately 258 billion cigarettes were produced in the United States in 2016. That means roughly 167,700,000,000 cigarettes were tossed on the streets, into bushes, and washed down storm drains. That is an astounding number. So what can be done to reduce this amount of litter?

Just ask Ruben van der Vleuten and Bob Spikman from the Netherlands. When they noticed the amount of cigarette litter in Amsterdam, they decided to come up with a way to clean it up. While doing some research, they discovered Joshua Klein's Crow Box, a box that releases peanuts when crows drop in change.

They are now working on their own version of the Crow Box. The box is made up of a platform for the birds to stand on, and a bin for them to drop the butt into, and a device that releases the food. There are sensors that detect what type of object is dropped in so they are only rewarded when they drop in a cigarette butt.

While their initial prototype isn't quite ready for testing, they hope to be up and running soon.

# COMMODITY

| <b><u>PAPER-\$/TON</u></b>             | <b><i>RISI Official Board Markets (Midwest/Chicago area) FOB</i></b>              |               |               |               |               |               |                  |                   |
|--|---|---------------|---------------|---------------|---------------|---------------|------------------|-------------------|
| -                                      | <b>Apr-17</b>   | <b>May-17</b> | <b>Jun-17</b> | <b>Jul-17</b> | <b>Aug-17</b> | <b>Sep-17</b> | <b>Oct-17</b>    | <b>Oct-16</b>     |
| #2 mixed paper                         | \$ 85-90  | \$ 60-65      | \$65-70       | \$65-75       | \$60-65       | \$60-65       | <b>\$30-35</b>   | <b>\$ 40-45</b>   |
| #37 sorted office paper (SOP)          | \$160-170   | \$160-170     | \$ 166-165    | \$155-165     | \$155-165     | \$155-165     | <b>\$130-140</b> | <b>\$140-150</b>  |
| #8 ONP                                 | \$90-100  | \$75-80       | \$ 75-80      | \$90-100      | \$70-80       | \$70-80       | <b>\$50-60</b>   | <b>\$80-85</b>    |
| #40 sorted white ledger (SWL)          | \$205-215   | \$202-215     | \$ 205-215    | \$205-215     | \$205-215     | \$205-215     | <b>\$205-215</b> | <b>\$ 200-205</b> |
| #11 OCC                                | \$150-160   | \$140-150     | \$ 170-180    | \$160-170     | \$140-155     | \$140-155     | <b>\$90-100</b>  | <b>\$95-100</b>   |
| <b><u>PLASTICS-¢/LB.</u></b>           | <b><i>Recycling Markets.Net/Secondary Materials Pricing - FOB</i></b>             |               |               |               |               |               |                  |                   |
| -                                      | <b>Apr-17</b>   | <b>May-17</b> | <b>Jun-17</b> | <b>Jul-17</b> | <b>Aug-17</b> | <b>Sep-17</b> | <b>Oct-17</b>    | <b>Oct-16</b>     |
| #1 PET - mixed (clear & green)         | \$0.13  | \$0.15        | \$0.15        | \$0.16        | \$0.16        | \$0.16        | <b>\$0.14</b>    | <b>\$0.09</b>     |
| #2 HDPE (natural-milk jugs)            | \$0.35  | \$0.28        | \$0.29        | \$0.29        | \$0.32        | \$0.32        | <b>\$0.32</b>    | <b>\$0.28</b>     |
| #2 HDPE (colored-detergent btl.)       | \$0.20  | \$0.15        | \$0.16        | \$0.14        | \$0.17        | \$0.17        | <b>\$0.19</b>    | <b>\$0.22</b>     |
| <b><u>GLASS-\$/TON</u></b>             | <b><i>Recycling Markets.Net/Secondary Materials Pricing - Delivered</i></b>       |               |               |               |               |               |                  |                   |
| -                                      | <b>Apr-17</b>   | <b>May-17</b> | <b>Jun-17</b> | <b>Jul-17</b> | <b>Aug-17</b> | <b>Sep-17</b> | <b>Oct-17</b>    | <b>Oct-16</b>     |
| clear (flint)                          | \$31.00   | \$31.00       | \$31.00       | \$31.50       | \$33.00       | \$33.00       | <b>\$32.50</b>   | <b>\$31.00</b>    |
| brown (amber)                          | \$27.50   | \$27.50       | \$27.50       | \$27.50       | \$27.50       | \$27.50       | <b>\$27.50</b>   | <b>\$27.00</b>    |
| green                                  | \$10.00   | \$12.50       | \$12.50       | \$12.50       | \$12.50       | \$12.50       | <b>\$12.50</b>   | <b>\$13.00</b>    |
| <b><u>METALS</u></b>                   | <b><i>Recycling Markets.Net/Secondary Materials Pricing - Baled/Densified</i></b> |               |               |               |               |               |                  |                   |
| -                                      | <b>Apr-17</b>   | <b>May-17</b> | <b>Jun-17</b> | <b>Jul-17</b> | <b>Aug-17</b> | <b>Sep-17</b> | <b>Oct-17</b>    | <b>Oct-16</b>     |
| aluminum beverage cans (UBC) cents/lb. | \$0.68  | \$0.66        | \$0.66        | \$0.67        | \$0.67        | \$0.72        | <b>\$0.71</b>    | <b>\$0.58</b>     |
|  | <b><i>Recycling Markets.Net/Secondary Materials Pricing - Baled</i></b>           |               |               |               |               |               |                  |                   |
|  | <b>Apr-17</b>   | <b>May-17</b> | <b>Jun-17</b> | <b>Jul-17</b> | <b>Aug-17</b> | <b>Sep-17</b> | <b>Oct-17</b>    | <b>Oct-16</b>     |
| steel cans \$/TON                      | \$150-185   | \$120-160     | May-00        | \$150-180     | \$150-180     | \$150-180     | <b>\$120-150</b> | <b>\$ 80-100</b>  |



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## ***Kentucky Recycling Assistance Section***

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